BRIGADE®

Vehicle Safety Solutions

Product Catalogue 2015
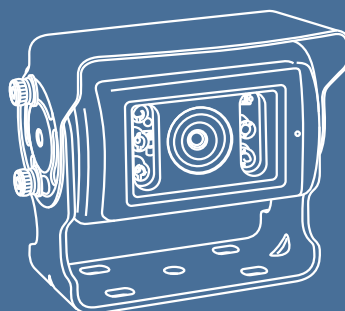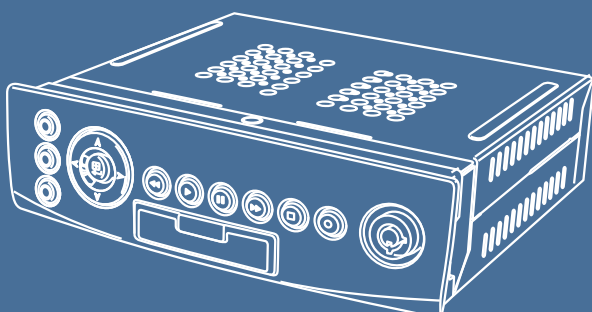
English

Brigade

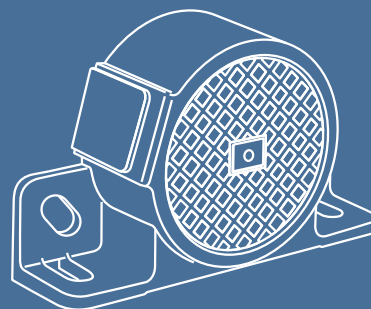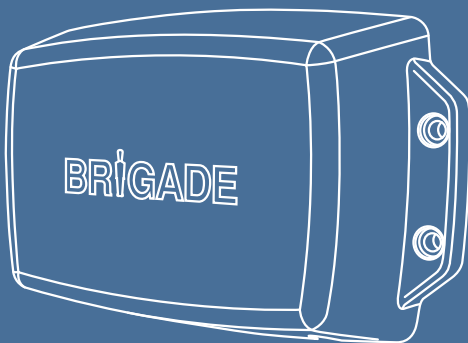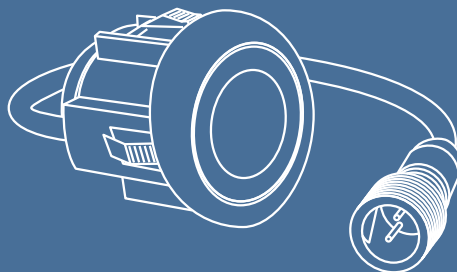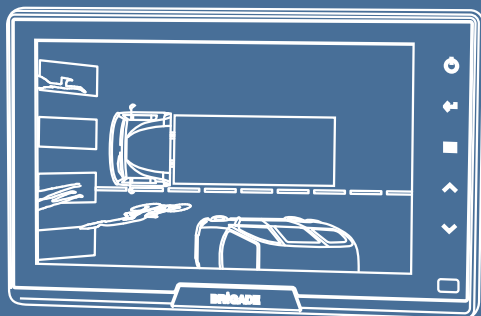Brigade has been pioneering the cause of reversing safety since 1976, when we introduced the very first reversing alarm to Europe. We continue to lead the way in vehicle and plant safety, having extended our range to include all-round visibility, pioneering many products and developing and patenting new technology.

We rigorously test all products beyond industry standards to achieve quality and reliability. In fact we are so confident in our products that we can provide two year, three year and in the case of some products, lifetime warranties.

The Brigade Group is based in the UK, has subsidiary companies in the USA, Germany, Italy and The Netherlands, joint ventures in France and South Africa and is in partnership with over 50 specialist distributors worldwide, with current exports across all five continents.

Our wealth of experience has earned us a reputation for expertise. We act as an industry voice and are often called upon in an advisory capacity to sit on both legislative and international committees.

We understand your industry and the problems you face.

+44(0) 1322 420300   sales@brigade-electronics.com   www.brigade-electronics.com

contents

Driving Global Safety

Vehicle Safety Solutions

Brigade understands the many and complex safety issues of mobile applications, resulting in a flexible product range offering safety solutions for vehicles and plant. Whether you are operating on- or off-road, vehicle or machine, large or small, we can help.

We strongly believe in a complementary range of passive and active systems to warn and assist the driver whilst protecting workers, pedestrians and cyclists. Not only this, our systems help increase efficiency and decrease vehicle downtime, saving operators thousands of pounds.

In terms of saving lives we believe the status quo is never enough. We are constantly researching the latest and developing technologies to see how they can be used to improve safety for different mobile applications.

Many of our product ranges were initially introduced to the UK, Europe and even the world by Brigade. Several of our products are patented and unique to us.

Accept no imitations.

Camera Monitor Systems

Backeye®

Camera monitor systems can help eliminate driver blind spots to prevent costly damage and ultimately save lives. Brigade's systems meet a host of on- and off- road health and safety and legislative requirements.
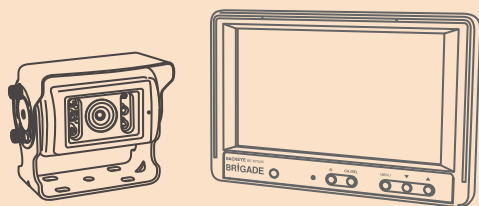
See pages 6-30

Mobile Digital Recording

Robust and reliable digital recording systems provide high quality video and data records. Ideally suited to large road going vehicles in the freight, waste, bus and coach industries. Add to your camera monitor system for a range of benefits.
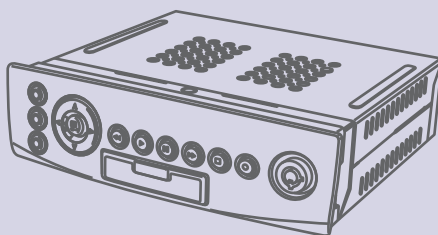
See pages 31-33

Ultrasonic Obstacle Detection

Frontscan® Backscan® Sidescan® Cornerscan™ Stepscan™

Sensor systems inform driver of distance between vehicle and any obstacles, whether moving or stationary. Perfect for road going commercial vehicles regularly operating in confined spaces or manoeuvring at low speeds.
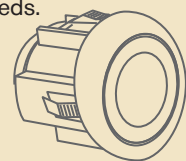
See pages 34-37

White Sound Warning Alarms
bbs-tek®

Vital audible safety devices to warn that a vehicle is manoeuvring. Unique to Brigade, White Sound® alarms (bbs-tek®) are the safest in the world and do not cause a noise nuisance. Endorsed by the Noise Abatement Society and PIEK and have been awarded the Quiet Mark. Options include smart alarms, which adjust appropriately to the ambient noise level.
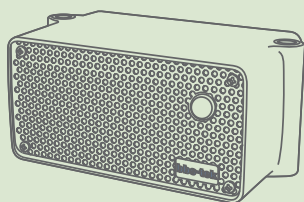
See pages 38-44

Radar Obstacle Detection
Backsense®

Robust long range sensor systems designed for harsh conditions. Inform driver of distance between vehicle and any obstacles, whether moving or stationary. Perfect for all machines working in construction, mobile plant and refuse.
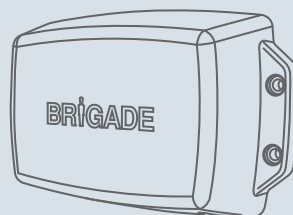
See pages 45-47

Camera Monitor Systems
Backeye®360

Intelligent camera monitor system that provides the driver with a bird's-eye view of the vehicle. Four camera images are processed into a single 360°, real-time picture on the driver's monitor.
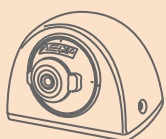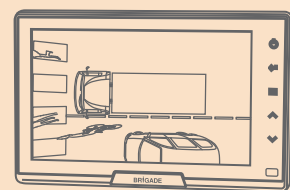
See pages 8-11
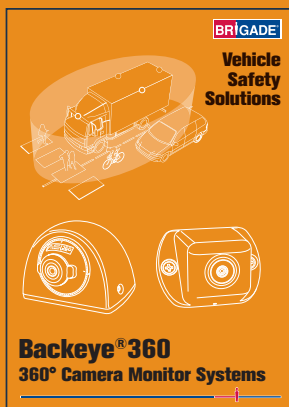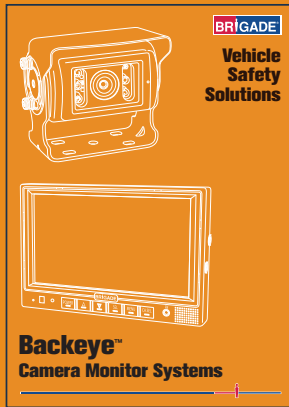
Available Brochures

Backeye®

All-round visibility for commercial vehicles and mobile plant.

Which range is for you?

Elite
Top of the range systems for comprehensive blind spot coverage. Suitable for large road-going vehicles, specialist applications, heavy duty off-road machines or where the cab is exposed to the elements.

Select
Mid-range systems suitable for medium to large road-going vehicles.

Essential
Entry level reversing solution ideally suited to light commercial vehicles and vans.

Choosing your camera monitor system

Select from our range of popular complete standard systems featured on pages 21-25 or build your own system referring to the camera monitor compatibility chart below, adding cables, adapters and ancillaries to connect and upgrade your system.

Camera/monitor compatibility for building your own system

			MONITORS			
✓ = Compatible AC-0xx = Compatible with adapter(s) shown ✗ = Not compatible			ELITE		SELECT	
			BE-970WFM BE-970WM BE-865DDM	BE-870LM BE-856GM	VBV-7104FM VBV-770FM VBV-770M VBV-750M	VBV-770M-S VBV-750M-S
CAMERAS	ELITE	BE-810C shutter camera	✓	SC-1000-ECU (Shutter module)	AC-007 + SC-1000-ECU	✗
		All other Elite range cameras	✓	✓	AC-007	AC-007
	SELECT	VBV-710C shutter camera	AC-035 + AC-006	AC-035 + AC-006	AC-035	✓
		All other Select range cameras	AC-006	AC-006	✓	✓

SELECT 360° CAMERA SYSTEMS

BN360-000 - Backeye 360 Select system   4483

- IPX7 cameras
- 12-24Vdc
- Size (WxHxD) ECU
  170 x 126.4 x 36mm
- Size (WxHxD) Camera
  35.4 x 60.7 x 45.8mm
- 2 year warranty

Contents
- 1 x BN360-ECU-10
- 4 x BN360-100C cameras
- 1 x BN360-VBV-L4015 Video-out cable to connect to SELECT range monitor.

Note: Monitor and camera cables not included

Features
- 360° single image
- Triggered views (rear, left and right)
- 4 x ultra-wide viewing angle cameras (HxV) 185° x142°
- 1/3.6" CMOS sensor
- TV system: NTSC

Power
- Power consumption: 15 Watts
- Current: 1.23 Amps

Durability & Standards
- Mechanical vibration: 1G
- Operating temperature: -30 to +75°C
- CE marked
- EMC approved: E
- HALT tested

Note: A calibration kit is required for installation.

SELECT 360° CABLES AND ADAPTERS

BN360-L120	20m camera cable	4493
BN360-L115	15m camera cable	4495
BN360-L110	10m camera cable	4496
BN360-L105	5m camera cable	4498
BN360-L1025	2.5m camera cable	4499
AC-304	Splitter cable for MDR (1 required per camera)	4738

OPTIONAL MOUNTING BRACKETS

BN360-100C-BKT01	Adaptable mounting bracket - can be shaped to allow installation on non-vertical surfaces	4649
BN360-100C-BKT02	Mounting bracket to adjust camera angle	4714
BE360-CD	Deflector to shield camera from knocks (To be used with BN360-100C-BKT02 Mounting bracket)	4701
BN360-100C-BKT03	Deflector to shield camera from knocks	4743

REQUIRED ADDITION FOR ARTICULATED VEHICLES

BN360-Enclosure	IP66 Enclosure kit to enable ECU to be installed on outside of vehicle	4723

Note: Coiled cable kit or wireless connector also required

SELECT RANGE 360º CAMERA MONITOR SYSTEMS

Complete kits including monitor, Select 360 camera system, cables and adapters

SE-7104F-100 - 360 camera monitor system for large rigid vehicles   4618

- 1 x VBV-7104FM - 10.4" monitor
- 1 x BN360-000 360 system
- 1 x BN360-L110 - 10m camera cable
- 2 x BN360-L115 - 15m camera cables
- 1 x BN360-L120 - 20m camera cable
- 1 x BN360-VBV-L4015 - video out cable

See individual products for detailed specifications

- 2 year system warranty

SE-770-100 - 360 camera monitor system for large rigid vehicles   4804

- 1 x VBV-770M 7" monitor
- 1 x BN360-000 360 system
- 1 x BN360-L110 - 10m camera cable
- 2 x BN360-L115 - 15m camera cables
- 1 x BN360-L120 - 20m camera cable
- 1 x BN360-VBV-L4015 - video out cable

See individual products for detailed specifications

- 2 year system warranty

360º camera systems

4 Cameras
1 Image
0 Blind spots

Backeye®360 is an intelligent camera monitor system designed to assist low-speed manoeuvrability by providing the driver with a complete surround view of the vehicle in real time.

Ultrawide-angle cameras mounted on the front, sides and rear of the vehicle capture the surrounding areas of the vehicle including all blind spots. Simultaneous digital images from these cameras are then processed and 'video stitched' resulting in a 360º birds-eye view within a single image. The software also instantly eliminates any fisheye camera distortion delivering a clear, real-time picture on the driver's monitor.
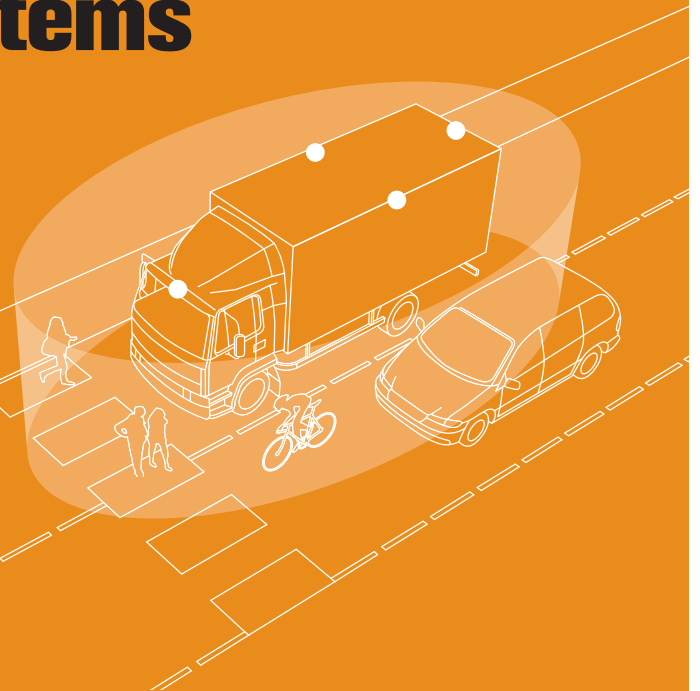
ELITE 360° CAMERA SYSTEMS

ASL360-SV - Backeye 360 Elite   4328

- IP68 cameras

- 12-24Vdc

- Size (WxHxD) ECU
  225 x 35 x 120mm

- Size (WxHxD) Camera
  70 x 50 x 62mm

- 2 year warranty

Contents
- 1 x ASL360-ECU
- 4 x ASL360-CM2 cameras

Note: Monitor, camera cables and adapters NOT included

Features
- 360° single image
- Flexible blend widths and positioning
- Up to 30 frames per second
- Self-monitoring to eliminate frozen images
- Triggered views
- 4 x ultra-wide viewing angle cameras (HxV) 185 x 180°
- 1/4" CMOS sensor
- TV system: PAL

Power
- Power consumption:
  Camera: 0.5 Watts
  ECU: 5.0 Watts
- Current:
  Camera: 0.04 Amps
  ECU: 0.4 Amps

Durability & Standards
- Operating temperature:
  -40 to +85°C
- CE marked
- EMC approved: E

Note: A calibration kit is required for installation. Available to Brigade trained fitters only

CABLES AND ADAPTERS

ASL360-L120	20m camera cable	4333
ASL360-L115	15m camera cable	4334
ASL360-L110	10m camera cable	4335
ASL360-L1025	2.5m camera cable	4336
AC-054	2.5m adapter cable to connect ECU to monitor via AC-016 / AC-024 (BNC B to Phono A)	4340
AC-016	Adapter cable to connect AV/Phono to Elite monitor	2150
AC-024	Adapter cable to connect AV/Phono to Select monitor	3183

OPTIONAL MOUNTING BRACKET

BE360-CD	Deflector to shield camera from knocks	4701

REQUIRED ADDITION FOR ARTICULATED VEHICLES

BN360-Enclosure	IP66 Enclosure kit to enable ECU to be installed on outside of vehicle	4723

Note: Coiled cable kit or wireless connector also required

ELITE RANGE 360° CAMERA MONITOR SYSTEMS

Complete kits including monitor, Elite 360 camera system, cables and adapters

SE-970W-000 - 360 camera monitor system for large rigid vehicles   4341

- 1 x BE-970WM - 7" waterproof monitor
- 1 x ASL-360SV 360 system
- 1 x ASL-L110 - 10m camera cable
- 2 x ASL-L115 - 15m camera cables
- 1 x ASL-L120 - 20m camera cable
- 1 x AC-016 - phono adapter cable
- 1 x AC-054 - adapter cable

See individual products for detailed specifications

- 2 year system warranty

SE-870L-000 - 360 camera monitor system for large rigid vehicles   4342

- 1 x BE-870LM - 7" monitor
- 1 x ASL-360SV 360 system
- 1 x ASL-L110 - 10m camera cable
- 2 x ASL-L115 - 15m camera cables
- 1 x ASL-L120 - 20m camera cable
- 1 x AC-016 - phono adapter cable
- 1 x AC-054 - adapter cable

See individual products for detailed specifications

- 2 year system warranty

SE-770-000 - 360 camera monitor system for large rigid vehicles   4803

- 1 x VBV-770M - 7" monitor
- 1 x ASL-360SV 360 system
- 1 x ASL-L110 - 10m camera cable
- 2 x ASL-L115 - 15m camera cables
- 1 x ASL-L120 - 20m camera cable
- 1 x AC-024 - phono adapter cable
- 1 x AC-054 - adapter cable

See individual products for detailed specifications

- 2 year system warranty

360° camera systems

To find out more information and to watch a video on Brigade's Backeye®360, please scan the QR code with your mobile device.

youtube.com/brigademarketing

BEST SELLER   ELITE CAMERA

Heated camera

BE-800C	1623
BE-800C(40) - Narrow viewing angle: 33 x 25 x 40°	**1559**
BE-800C(78) - Narrow viewing angle: 64 x 47 x 78°	**1426**
BE-890C - Waterproof to IP69K, No audio	**2871**

- **Viewing angle (HxVxD)**
  101 x 72 x 133°

- **IP68**

- **Size (WxHxD)**
  86 x 72 x 80mm

- **3 year warranty**

Features
- 5 Infrared LEDs for ultra-low light performance
- 5m illumination distance
- Heater
- Audio
- Day / Night sensor
- Mirror / Normal view
- 1/3" Sony CCD
- TV System: PAL
- TV lines: 450

Power
- Power consumption: 4 Watts
- Current: 0.33 Amps

Durability & Standards
- Mechanical vibration: 20G
- Mechanical shock: 50G
- Operating temperature: -30 to +80°C
- CE marked
- EMC approved: E
- HALT tested
- ISO 13766: 2006 (BE-890C only)

ELITE CAMERA

BE-810C - Heated shutter camera	**1242**

- **Viewing angle (HxVxD)**
  103 x 71 x 134°

- **IP69K**

- **Size (WxHxD)**
  123 x 85.5 x 80.4mm

- **3 year warranty**

Features
- 6 Infrared LEDs for ultra-low light performance
- 5m illumination distance
- Shutter
- Heater
- Audio
- Day / Night sensor
- Mirror / Normal view
- 1/3" Sony CCD
- TV System: PAL
- TV Lines: 400

Power
- Power consumption: 5 Watts
- Current: 0.4 Amps

Durability & Standards
- Mechanical vibration: 10G
- Mechanical shock: 100G
- Operating temperature: -40 to +80°C
- CE marked
- EMC approved: E

SC-1000-ECU - Shutter camera module is required to connect to any Extreme or Elite monitor (see ancillaries)   3666

ELITE CAMERA

BE-820C - Mini camera (mirror image)	**1927**
BE-822C - Mini camera (normal image)	**2151**

- **Viewing angle (HxVxD)**
  111 x 87 x 129°

- **IP68**

- **Size (WxHxD)**
  47 x 40 x 50mm

- **3 year warrranty**

Features
- 1/4" Sony CCD
- TV System: PAL
- TV Lines: 380

Power
- Power consumption: 1.5 Watts
- Current: 0.1 Amps

Durability & Standards
- Mechanical vibration: 10G
- Mechanical shock: 100G
- Operating temperature: -20 to +70°C
- CE marked
- EMC approved: E
- HALT tested

ELITE CAMERA

DMC-1025 - Digital mini camera (internal use)   1529

- **Viewing angle (HxVxD)
  73 x 51 x 89°**

- **IP66**

- **Size (WxHxD)
  42.5 x 45 x 37.7mm**

- **3 year warranty**

Features
- Mirror / Normal view
- 1/3" Sony CCD
- TV System: PAL
- TV Lines: 520

Power
- Power consumption: 0.84 Watt
- Current: 0.07 Amps

Durability & Standards
- Mechanical vibration: 10G
- Operating temperature: -20 to +70°C
- CE marked

ELITE CAMERA

MD-50 - Mini dome camera (internal use)   2581

- **Viewing angle (HxVxD)
  73 x 51 x 89°**

- **IP66**

- **Size (Diameter x H)
  76 x 26mm**

- **3 year warranty**

Features
- Mirror / Normal view
- 1/3" Sony CCD
- TV System: PAL
- TV Lines: 520

Power
- Power consumption: 0.84W
- Current: 0.07 Amps

Durability & Standards
- Mechanical vibration: 10G
- Operating temperature: -20 to +70°C
- CE marked

OPTIONAL EXTRAS

MD-50SM - Surface mounting adapter (30mm deep)   2582

MD-50AM - Angled surface mounting adapter (adds 15°)   2583

BEST SELLER | SELECT CAMERA

VBV-700C   **1379**
VBV-790C - Waterproof to IP69K, no audio   **2724**

- **Viewing angle (HxVxD)**
  92 x 70 x 115°

- **IP67**

- **Size (WxHxD)**
  81 x 77 x 70mm

- **2 year warranty**

Features
- 18 Infrared LEDs for ultra-low light performance
- 15m illumination distance
- Audio
- Day / Night sensor
- Mirror view
- 1/3" Sharp CCD
- TV System: PAL
- TV Lines: 420

Power
- Power consumption: 2.4 Watts
- Current: 0.2 Amps

Durability & Standards
- Mechanical vibration: 10G
- Mechanical shock: 100G
- Operating temperature: -20 to +70°C
- CE marked
- EMC approved: E
- HALT tested

SELECT CAMERA

VBV-710C -   **Heated shutter camera**   **2808**
For connection to VBV-770DM-S and VBV-750DM-S 5-pin Select monitors
Requires 5-pin 10m (VBV-L510) or 20m (VBV-L520) camera cable

VBV-710C(AC) - Heated shutter camera   **3703**
Includes 5-pin to 4-pin adapter (AC-035) for connection to other Select monitors

- **Viewing angle (HxVxD)**
  90 x 70 x 110°

- **IP69K**

- **Size (WxHxD)**
  122 x 85 x 82mm

- **2 year warranty**

Features
- 12 Infrared LEDs for ultra-low light performance
- 10m illumination distance
- Shutter
- Heater
- Audio
- Day / Night sensor
- Mirror / Normal view
- 1/3" Sharp CCD
- TV System: PAL
- TV Lines: 420

Power
- Power consumption: 4.6 Watts
- Current: 0.38 Amps

Durability & Standards
- Mechanical vibration: 2.8G
- Operating temperature: -20 to +70°C
- CE Marked
- EMC approved: E

SELECT CAMERA

VBV-485C - Cylinder camera   **2199**

- **Viewing angle (HxVxD)**
  88 x 64 x 112°

- **IP67**

- **Size (diameter x length)**
  35 x 50mm

- **2 year warranty**

Features
- 9 LEDs for ultra-low light performance
- 8m illumination distance
- Mirror view
- 1/3" Sharp CCD
- TV System: PAL
- TV Lines: 420

Power
- Power consumption: 2.3 Watts
- Current: 0.2 Amps

Durability & Standards
- Mechanical vibration: 10G
- Operating Temperature: -20 to +70°C
- CE marked

SELECT CAMERA

NEW

Compact flush mount eyeball camera

VBV-300C - Mirror view — **4604**
VBV-320C - Normal view — **4613**

- **Viewing angle (HXVXD) 102 x 78 x 145°**
- **IP69K**
- **Size (WxHxD) 56.7 x 41.4 x 68.3 mm**
- **2 year warranty**

Features
- Lens swivel adjustment: 35°(Top) x 5°(Bottom) x 8°(Left) x 8°(Right)
- Lens rotation adjustment: ±180°
- 5 infrared LEDs for ultra low-light performance
- 3-6m illumination distance
- Day / Night sensor
- 1/3" Sharp CCD
- TV System: PAL
- 420 TV lines

Power
- Operating voltage: 12 Vdc
- Power consumption: 1.44 Watts
- Current consumption: 0.12 Amps

Durability & Standards
- Corrosion resistant: ISO9227 salt spray standard
- Mechanical vibration: 2.84G
- Operating temperature: -20 to +70°C
- CE marked
- EMC approved: E

OPTIONAL EXTRAS

SM-3XX-25 Surface mounting adapter (25mm deep) — **4596**

THERMAL IMAGING CAMERA

PF-30N-500 - PathFindIR II with automatic detection 30Hz — **334-0050-00**
PF-075N-540 - PathFindIR II with automatic detection 7.5Hz — **334-0054-00**

- **12Vdc**
- **Viewing angle (HxV) 24 x 18°**
- **IP69 (Camera)**
- **Size (WxHxD) Camera: 60 x 86 x 82mm ECU: 148 x 110 x 24 mm**
- **1 year warranty**

Contents
- camera, ECU, Camera to ECU cable and power cable

Features
- Automatic detection and alerts of pedestrians and animals
- Produces a clear image, even in total darkness.
- See through smoke, dust and light fog
- Automatic Heated Element.
- See past the glare of oncoming headlights
- Sees up to 4 times further than vehicle headlights

Image
- 320 x 240 Uncooled Microbolometer
- Spectral range: 8 - 14µm
- Image Frequency: 7.5/30Hz (NTSC)

Power
- Power consumption: 6 Watts

Durability & Standards
- IP69
- Operating Temperature: -40°C to 80°C
- ISO 9001:2008

FLIR™

THERMAL IMAGING CAMERA

PF-30N-520 - PathFindIR II 30Hz — **334-0052-00**
PF-075N-560 - PathFindIR II 7.5Hz — **334-0056-00**

- **12Vdc**
- **Viewing angle (HxV) 24 x 18°**
- **IP69 (Camera)**
- **Size (WxHxD) Camera: 60 x 86 x 82mm ECU: 148 x 110 x 24 mm**
- **1 year warranty**

Contents
- camera, ECU, Camera to ECU cable and power cable

Features
- Produces a clear image, even in total darkness.
- See through smoke, dust and light fog
- Automatic Heated Element.
- See past the glare of oncoming headlights
- Sees up to 4 times further than vehicle headlights

Image
- 320 x 240 Uncooled Microbolometer
- Spectral range: 8 - 14µm
- Image Frequency: 7.5/30Hz (NTSC)

Power
- Power consumption: 6 Watts

Durability & Standards
- IP69
- Operating Temperature: -40°C to 80°C
- ISO 9001:2008

FLIR™

ELITE MONITOR

BE-970WFM - Waterproof multi-image 7" Digital LCD monitor   3560

- **12-24Vdc**
- **4 camera inputs**
- **IP69K**
- **Size (WxHxD)**
  194 x 124 x 48mm
- **3 year warranty**

7.0"

| Single | Split | Triple | Quad |

Picture in picture

Plus Additional
In-Built Image
Options

Features
- Shutter camera compatible
- Backlit touch screen button panel
- 'Button-lock' anti tamper feature
- 5 Auto-triggers
- Mirror / Normal switching from menu
- On screen distance and vertical line markers
- Audio
- Speed switch trigger to operate system or determine split screen display
- Sun shield
- Multi-lingual menus
- Auto-switching PAL / NTSC

Picture Quality
- LED backlighting (gives 20,000 hours life)
- Anti-glare screen
- Resolution: 800 x 480
- Contrast ratio: 500:1
- Brightness: 500cd/m^2
- Viewing angles: Side 65° x Top 50° x Bottom 60°

Power
- Power consumption: min 28 Watts
- Current: min 2.15 Amps

Durability & Standards
- Aluminium die cast casing
- Mechanical vibration: 10G
- Mechanical shock: 100G
- Operating temperature: -40 to +75°C
- CE marked
- EMC approved: E
- ISO 16750
- ISO 20653: 2006
- HALT tested

ELITE MONITOR

BE-970WM - Waterproof 7" Digital LCD monitor   3351

- **12-24Vdc**
- **2 camera inputs**
- **IP69K**
- **Size (WxHxD)**
  194 x 124 x 48mm
- **3 year warranty**

7.0"

Features
- Shutter camera compatible
- Backlit touch screen button panel
- 'Button-lock' anti tamper feature
- 2 Auto-triggers
- Mirror / Normal switching from menu
- On screen distance and vertical line markers
- Audio
- Sun shield
- Multi-lingual menus
- Auto-switching PAL / NTSC

Picture Quality
- LED backlighting (gives 20,000 hours life)
- Anti-glare screen
- Resolution: 800 x 480
- Contrast ratio: 500:1
- Brightness: 500cd/m^2
- Viewing angles: Side 65° x Top 50° x Bottom 60°

Power
- Power consumption: 11 Watts
- Current: 0.9 Amps

Durability & Standards
- Aluminium die cast casing
- Mechanical vibration: 20G
- Mechanical shock: 100G
- Operating temperature: -40 to +70°C
- CE marked
- EMC approved: E
- ISO 16750
- ISO 13766: 2006
- HALT tested

ELITE MONITOR

BE-870LM - 7" Digital LCD monitor   2705

- **12-24Vdc**

- **2 camera inputs**

- **Size (WxHxD)**
  197 x 128 x 33.5mm

- **3 year warranty**

7.0"

Features
- 'Button-lock' anti tamper feature
- 2 Auto-triggers with configurable trigger-off delays
- Mirror / Normal switching from menu
- On-screen distance and vertical line markers
- Shutter / Tilt camera compatible
- Audio
- Sun shield
- Auto-dimmer and keypad illumination
- 8 language menus
- Auto-switching PAL / NTSC

Picture Quality
- LED backlighting
  (gives 20,000 hours life)

- Anti-glare screen
- Resolution: 800 x 480
- Contrast ratio: 500:1
- Brightness: 400cd/m^2
- Viewing angles:
  Side 70° x Top 50° x Bottom 70°

Power
- Power consumption: 10 Watts
- Current: 1 Amp

Durability & Standards
- Mechanical vibration: 10G
- Mechanical shock: 100G
- Operating temperature: -30 to +70°C
- CE marked
- EMC approved: E

ELITE MONITOR

BE-865DDM - Double DIN 6.5" Digital LCD Monitor   3935

- **12-24Vdc**

- **4 camera inputs**

- **Size (WxHxD) Double DIN**
  188 x 116 x 142mm

- **3 year warranty**

6.5"

Single   Split   Triple   Quad

Picture in picture

Plus Additional In-Built Image Options

Features
- Shutter / Tilt camera compatible
- Backlit touch screen button panel
- 'Button-lock' anti tamper feature
- 5 Auto-triggers with option to select 3 triggers for split mode
- Mirror / Normal switching from menu
- On screen distance and vertical line markers
- Audio
- Speed switch trigger to operate system or determine split screen display
- Sun shield
- Multi-lingual menus
- Audio / video inputs / output
- Auto-switching PAL / NTSC

Picture Quality
- LED backlighting
  (gives 20,000 hours life)

- Anti-glare screen
- Resolution: 800 x 480
- Contrast ratio: 500:1
- Brightness: 500cd/m^2
- Viewing angles:
  Side 70° x Top 50° x Bottom 70°

Power
- Power consumption: min 15.4 Watts
- Current: min 1.4 Amps

Durability & Standards
- Mechanical vibration: 6G
- Operating temperature: -40 to +70°C
- CE marked
- EMC approved: e
- ISO 16750
- R46 and 2003/97/EC approved for indirect vision (with compliant cameras only)

ELITE MONITOR

BE-856GM - 5.6" Digital LCD monitor

3756

- **12-24Vdc**
- **2 camera inputs**
- **Size (WxHxD)**
  172 x 115 x 32mm
- **3 year warranty**

5.6"

Features
- 2 Auto-triggers
- Mirror / Normal switching from menu
- On-screen distance & vertical line markers
- Audio
- Sun shield
- Auto-dimmer
- Multi-lingual menus
- Auto-switching PAL / NTSC

Picture Quality
- LED backlighting
  (gives 20,000 hours life)
- Anti-glare screen
- Resolution: 640 x 480
- Contrast ratio: 500:1

- Brightness: 350cd/m^2
- Viewing angles:
  Side 70° x Top 50° x Bottom 70°

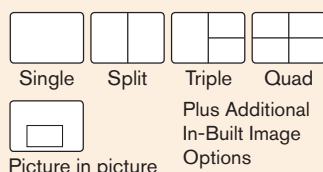**Power**
- Power consumption: 11 Watts
- Current: 0.9 Amps

Durability & Standards
- Mechanical vibration: 10G
- Mechanical shock: 50G
- Operating temperature: -40 to +70°C
- CE marked
- EMC approved: e
- ISO 13766: 2006
- ISO 16750
- HALT tested

ESSENTIAL MONITOR

VBV-243M - 4.3" Digital mirror monitor

4070

- **12Vdc**
- **1 camera input**
- **Size (WxDxH)**
  259 x 88 x 22mm
- **1 year warranty**

4.3"

Features
- On screen display menu
- Digital LCD panel
- 1 Auto-trigger
- TV system: PAL / NTSC

Picture Quality
- Resolution: 480 x 272
- Contrast ratio: 500:1
- Brightness: 200cd/m^2
- Viewing angles:
  Side 50° x Top 60° x Bottom 55°

Power
- Power consumption: 4.95 Watts
- Current: 0.45 Amps

Durability & Standards
- Vibration rating: 6G
- Operating temperature:
  -20 to +70°C
- CE marked

NEW   **SELECT MONITOR**

VBV-7104FM - Multi-image 10.4" Digital LCD Monitor   4474

- **12-24Vdc**
- **4 camera inputs**
- **Size (WxHxD) 267 x 193 x 30mm**
- **2 year warranty**

10.4"

Single   Split   Triple   Quad

Picture in picture

Plus Additional In-Built Image Options

Features
- 'Button-lock' anti tamper feature
- 5 Auto-triggers
- Configurable trigger delay
- Mirror / Normal switching from menu
- On-screen distance markers
- Built-in speaker
- Sun shield
- Auto-switching PAL / NTSC

Picture Quality
- LED backlighting (gives 30,000 hours life)
- Anti-glare screen
- Resolution: 1024 x 768
- Contrast ratio: 500:1
- Brightness: 400cd/m²
- Viewing angles: Side 70° x Top 60° x Bottom 60°

Power
- Power consumption: 22 Watts
- Current: 2 Amps

Durability & Standards
- Mechanical vibration: 2.83G
- Operating temperature: -20 to +70°C
- CE marked
- EMC approved: E
- HALT tested

SELECT MONITOR

VBV-770FM - Multi-image 7" Digital LCD monitor   3901

- **12-24Vdc**
- **4 camera inputs**
- **Size (WxHxD) 182 x 122 x 43mm**
- **2 year warranty**

7.0"

Single   Split   Triple   Quad

Picture in picture

Plus Additional In-Built Image Options

Features
- 'Button-lock' anti tamper feature
- 5 Auto-triggers
- Mirror / Normal switching from menu
- On-screen distance markers
- Audio
- Sun shield
- Multi-lingual menus
- Auto-switching PAL / NTSC

Picture Quality
- LED backlighting (gives 20,000 hours life)
- Anti-glare screen
- Resolution: 800 x 480
- Contrast ratio: 500:1
- Brightness: 400cd/m²
- Viewing angles: Side 70° x Top 50° x Bottom 60°

Power
- Power consumption: 15 watts
- Current: 1.3 Amps

Durability & Standards
- Mechanical vibration: 3G
- Operating temperature: -30 to +70°C
- CE marked
- EMC approved: e

NEW

SELECT MONITOR

VBV-770M - 7″ Digital LCD monitor   **4288**
VBV-770M-S - 7″ Digital LCD monitor   **4697**
  Includes 1 5-pin input for connection to VBV-710C shutter camera

- **12-24Vdc**

- **3 camera inputs**

- **Size (WxHxD)**
  196 x 118 x 26mm

- **2 year warranty**

  7.0″

Features
- 3 Auto-triggers
- Mirror / Normal switching from menu
- 'Button lock' anti-tamper feature
- On-screen distance markers
- Audio
- Sun shield
- Auto-dimmer
- Multi-lingual menus
- Auto-switching PAL / NTSC

Picture Quality
- LED backlighting
  (gives 20,000 hours life)
- Anti-glare screen
- Resolution: 800 x 480

- Contrast ratio: 500:1
- Brightness: 400cd/m^2
- Viewing angles:
  Side 70° x Top 50° x Bottom 70°

Power
- Power consumption: 18 Watts
- Current: 1.5 Amps

Durability & Standards
- Mechanical vibration: 4G
- Mechanical shock: 100G
- Operating temperature: -30 to +70°C
- CE marked
- EMC approved: E
- HALT tested

NEW

SELECT MONITOR

VBV-750M - 5″ Digital LCD monitor   **4287**
VBV-750M-S - 5″ Digital LCD monitor   **4710**
  Includes 1 5-pin input for connection to VBV-710C shutter camera

- **12-24Vdc**

- **3 camera inputs**

- **Size (WxHxD)**
  149.5 x 99 x 22mm

- **2 year warranty**

  5.0″

Features
- 3 Auto-triggers
- Mirror / Normal switching from menu
- On-screen distance markers
- 'Button lock' anti-tamper feature
- Audio
- Sun shield
- Auto-dimmer
- Multi-lingual menus
- Auto-switching PAL / NTSC

Picture Quality
- LED backlighting
  (gives 20,000 hours life)
- Anti-glare screen
- Resolution: 800 x 480

- Contrast ratio: 500:1
- Brightness: 350cd/m^2
- Viewing angles:
  Side 70° x Top 50° x Bottom 70°

Power
- Power consumption: 11.5 Watts
- Current: 0.95 Amps

Durability & Standards
- Mechanical vibration: 4G
- Mechanical shock: 100G
- Operating temperature: -30° to +70°C
- CE marked
- EMC approved: E
- HALT tested

RIGID VEHICLES
ELITE RANGE CAMERA MONITOR SYSTEMS

BE-870L-000 - Single camera monitor system for rigid vehicles **3231**

- BE-870LM - 7" monitor
- BE-800C - heated camera
- BE-L120 - 20m cable

See individual products for detailed specifications

- 3 year system warranty

BE-870L-100 - Single shutter camera monitor system for rigid vehicles **4032**

- BE-870LM - 7" monitor
- BE-810C - heated shutter camera
- BE-L120 - 20m cable
- SC-1000-ECU shutter camera module

See individual products for detailed specifications

- 3 year system warranty

BE-856G-000 - Single camera monitor system for rigid vehicles **4012**

- BE-856GM - 5.6" monitor
- BE-800C - heated camera
- BE-L120 - 20m cable

See individual products for detailed specifications

- 3 year system warranty

RIGID VEHICLES
SELECT RANGE CAMERA MONITOR SYSTEMS

VBV-770-300 - Single flush-mount camera monitor system for rigid vehicles **4777**

- VBV-770M - 7" monitor
- VBV-300C - flush-mount camera
- VBV-L420 - 20m cable

See individual products for detailed specifications

- 2 year system warranty

VBV-770-000 - Single camera monitor system for rigid vehicles **4692**

- VBV-770M - 7" monitor
- VBV-700C - camera
- VBV-L420 - 20m cable

See individual products for detailed specifications

- 2 year system warranty

RIGID VEHICLES (CONTINUED)
SELECT RANGE CAMERA MONITOR SYSTEMS

VBV-770-100 - Single shutter camera monitor system for rigid vehicles   **4695**

- VBV-770M-S - 7" monitor
- VBV-710C - shutter camera
- VBV-L520 - 20m cable

See individual products for detailed specifications

- **2 year system warranty**

VBV-770-002 - Twin camera monitor system for rigid vehicles   **4773**

- VBV-770M - 7" monitor
- 2 x VBV-700C - cameras
- VBV-L420 - 20m cable
- VBV-405 - 5m cable

See individual products for detailed specifications

- **2 year system warranty**

VBV-750-300 - Single flush-mount camera monitor system for rigid vehicles 4776

- VBV-750M - 5" monitor
- VBV-300C - flush-mount camera
- VBV-L420 - 20m cable

See individual products for detailed specifications

- **2 year system warranty**

VBV-750-000 - Single camera monitor system for rigid vehicles   **4705**

- VBV-750M - 5" monitor
- VBV-700C - camera
- VBV-L420 - 20m cable

See individual products for detailed specifications

- **2 year system warranty**

VBV-750-100 - Single shutter camera monitor system for rigid vehicles   **4708**

- VBV-750M-S - 5" monitor
- VBV-710C - shutter camera
- VBV-L520 - 20m cable

See individual products for detailed specifications

- **2 year system warranty**

SMALL RIGID VEHICLES AND VANS
SELECT RANGE CAMERA MONITOR SYSTEMS

VBV-770-310 - Single flush-mount camera monitor system for vans **4781**

- **VBV-770M - 7" monitor**
- **VBV-300C - flush-mount camera**
- **VBV-L410 - 10m cable**

See individual products for detailed specifications

- **2 year system warranty**

VBV-750-310 - Single flush-mount camera monitor system for vans **4780**

- **VBV-750M - 5" monitor**
- **VBV-300C - flush-mount camera**
- **VBV-L410 - 10m cable**

See individual products for detailed specifications

- **2 year system warranty**

EXTEND YOUR SYSTEM

Add a front or side camera bundle to any Select range camera monitor kit:

VBV-300C-SB - Side view camera bundle (mirror image) **4784**
VBV-320C-SB - Side or front view camera bundle (normal view) **4785**

- **VBV-300C or VBV-320C flush-mount camera**
- **VBV-405 - 5m cable**

See individual products for detailed specifications

- **2 year system warranty**

RIGID VEHICLES
ESSENTIAL RANGE CAMERA MONITOR SYSTEM

VBV-650-000 - Single camera monitor system for rigid vehicles **4765**

- **VBV-650AM - 5" monitor**
- **VBV-620C - camera**
- **VBV-L420 - 20m cable**
- **1 year warranty**

Monitor
- 12-24Vdc
- 1 camera input
- Size (WxHxD)
  148 x 110 x 30.2mm

Camera
- Viewing angle (HxVxD)
  81 x 59 x 106°
- IP67
- Size (WxHxD)
  64.5 x 59 x 55mm

5.0"

ARTICULATED VEHICLES
ELITE RANGE CAMERA MONITOR SYSTEMS

BE-870L-001 - Single camera monitor system for articulated vehicles   **3232**

- **BE-870LM - 7" monitor**
- **BE-800C - heated camera**
- **SK-31E - truck/trailer cable kit**

See individual products for detailed specifications

- **3 year system warranty**

BE-870L-101 - Single shutter camera monitor system for articulated vehicles 4016

- **BE-870LM - 7" monitor**
- **BE-810C - heated shutter camera**
- **SK-31E - truck/trailer cable kit**
- **SC-1000-ECU shutter camera module**

See individual products for detailed specifications

- **3 year system warranty**

BE-856G-001 - Single camera monitor system for articulated vehicles   **4024**

- **BE-856GM - 5.6" monitor**
- **BE-800C - heated camera**
- **SK-31E - truck/trailer cable kit**

See individual products for detailed specifications

- **3 year system warranty**

VEHICLES WITH DRAWBAR TRALERS
ELITE RANGE CAMERA MONITOR SYSTEMS

**BE-870L-004 - Twin camera monitor system for vehicles
with drawbar trailers**   **3233**

- **BE-870LM - 7" monitor**
- **2 x BE-800C - heated cameras**
- **SK-50E - truck/trailer cable kit**

See individual products for detailed specifications

- **3 year system warranty**

ARTICULATED VEHICLES
SELECT RANGE CAMERA MONITOR SYSTEMS

VBV-770-001DW - Single wireless camera monitor system for articulated vehicles   4843

- **VBV-770M - 7" monitor**
- **VBV-700C - camera**
- **VBV-L420 - 20m cable**
- **DW-1000-TX - digital wireless transmitter**
- **DW-1000-RX - digital wireless receiver**
- **AC-006 - camera adapter**
- **AC-007 - monitor adapter**

See individual products for detailed specifications

- **2 year system warranty**

VBV-770-001 - Single camera monitor system for articulated vehicles   4767

- **VBV-770M - 7" monitor**
- **VBV-700C - camera**
- **VSK-30E - truck/trailer cable kit**

See individual products for detailed specifications

- **2 year system warranty**

VBV-770-101 - Single shutter camera monitor system for articulated vehicles   4772

- **VBV-770M-S - 7" monitor**
- **VBV-710C - shutter camera**
- **VSK-305E - truck/trailer cable kit**

See individual products for detailed specifications

- **2 year system warranty**

VEHICLES WITH DRAWBAR TRAILERS
SELECT RANGE CAMERA MONITOR SYSTEMS

VBV-770-004 - Twin camera monitor system for vehicles with drawbar trailers   4774

- **VBV-770M - 7" monitor**
- **2 x VBV-700C - cameras**
- **VSK-50E - truck/trailer cable kit**

See individual products for detailed specifications

- **2 year system warranty**

VBV-770-104 - Twin shutter camera monitor system for vehicles with drawbar trailers   4775

- **VBV-770M-S - 7" monitor**
- **2 x VBV-710C - shutter cameras**
- **VSK-505E - truck/trailer cable kit**

See individual products for detailed specifications

- **2 year system warranty**

WIRELESS CAMERA MONITOR CONNECTION SYSTEM

DW-1000-TX - Digital Wireless Transmitter   **4043**
DW-1000-RX - Digital Wireless Receiver   **4044**

- **Digital technology**
- **12-24Vdc**
- **1 camera input**
- **IP69K (Transmitter)**
- **Size (WxHxD) 113 x 114 x 31mm**
- **2 year warranty**

Features
- Image Latency: 200 milliseconds
- Eliminates the need for retractable coiled cables
- Reduces installation time
- Re-pair facility allows for interchangeable trailers
- Compatible with Brigade's camera monitors
- Triggered by reverse gear
- TV System PAL/NTSC
- Secure connection
- Transmission frequency: 2.4 GHz
- Transmission power: 18 dBm

Power
- Maximum Current Amps: TX: 0.85 RX: 0.17
- Power consumption: TX: 9.8 Watts   RX: 2.2 Watts

Durability & Standards
- Operating temperature: -40 to +70°C
- Mechanical vibration: 6G
- Mechanical shock: 20G
- CE marked

ELITE TRUCK/TRAILER CABLE KIT

SK-31E - Cable kit for articulated trucks - unique pin layout   **1830**
SK-31E-T - Trailer only version   **1886**

SK-31E Cable kit

- **BE-L110 - 10m cable for cab**   0803
- **BE-X020 - 20m extension cable for trailer**   1143
- **SP-7A - 7-pin bulkhead socket for cab & cab-end camera connector (unique pin layout)**   1827

- **SP-7B - 7-pin bulkhead socket for trailer & trailer-end camera connector (unique pin layout)**   1828
- **SC-7 - Coiled cable with 7-pin plugs (unique pin layout)**   1829

ELITE TRUCK/TRAILER CABLE KIT

SK-30E - Cable kit for articulated trucks   **1144**
SK-30E-T - Trailer only version   **1885**

SK-30E Cable kit

- **BE-L110 - 10m cable for cab**   0803
- **BE-X020 - 20m extension for trailer**   1143
- **SP-07C - 7-pin bulkhead socket for cab & cab-end camera connector**   1140

- **SP-07T - 7-pin bulkhead socket for trailer & trailer-end camera connector**   1142
- **SC-07 - Coiled cable with 7-pin plugs**   1046

BRIGADE®

ELITE TRUCK/TRAILER CABLE KIT

SK-15-01 - Three camera cable kit for articulated trucks   **3427**

▪ SP-15A-01 - 15-pin bulkhead socket for cab & 3 cab-end camera connectors	3423	▪ SP-15B-01 - 15-pin bulkhead socket for trailer & 3 trailer-end camera connectors	3422
		▪ SC-15-01 - Coiled shielded cable with 15-pin plugs	3268

ELITE TRUCK/TRAILER CABLE KIT

SK-15-04 - Single camera & single buzzer Ultrasonic Detection System (new generation) cable kit for articulated trucks   **3997**

▪ SP-15A-04 - 15-pin bulkhead socket for cab & cab-end camera connector plus stripped wires and display/buzzer connection for Ultrasonics	3955	▪ SP-15B-04 - 15-pin bulkhead socket for trailer & trailer-end camera connector plus stripped wires and display/buzzer connection for Ultrasonics	3956
		▪ SC-15-01 - Coiled shielded cable with 15-pin plugs	3268

SELECT TRUCK/TRAILER CABLE KIT

VSK-31E - Cable kit for articulated trucks - unique pin layout   **2539**
VSK-31E-T - Trailer only version   **2543**

VSK-31E Cable kit

▪ VBV-L410 - 10m cable for cab	1386	▪ SP-7B - 7-pin bulkhead socket for trailer & trailer-end camera connector (unique pin layout)	1828
▪ VBV-L420 - 20m cable for trailer	1380		
▪ SP-7A - 7-pin bulkhead socket for cab & cab-end camera connector (unique pin layout)	1827	▪ AC-014 - Adapter cable	2094
		▪ AC-006 - Adapter cable	1983
		▪ SC-7 - Coiled cable with 7-pin plugs (unique pin layout)	1829

SELECT TRUCK/TRAILER CABLE KIT

VSK-30E - Cable kit for articulated trucks   **2538**
VSK-30E-T - Trailer only version   **2542**

VSK-30E Cable kit

▪ VBV-L410 - 10m cable for cab	1386	▪ VSP-47B -7-pin bulkhead socket for trailer & trailer-end camera connector	1846
▪ VBV-L420 - 20m cable for trailer	1380		
▪ VSP-47A - 7-pin bulkhead socket for cab & cab-end camera connector	1847	▪ SC-07-24S - Coiled cable with type 24S 7-pin plugs	1227

ELITE CAMERA CABLE

BE-L130 - 30 metre cable	**0800**
BE-L120 - 20 metre cable	**0801**
BE-L115 - 15 metre cable	**0802**
BE-L110 - 10 metre cable	**0803**
BE-L105 - 5 metre cable	**0804**
BE-L1003 - 0.3 metre cable	**2797**

ELITE CAMERA EXTENSION CABLE

BE-X025 - 25 metre extension cable	**1907**
BE-X020 - 20 metre extension cable	**1143**
BE-X015 - 15 metre extension cable	**2101**
BE-X010 - 10 metre extension cable	**2100**
BE-X005 - 5 metre extension cable	**2099**
BE-X003 - 3 metre extension cable	**0805**

SELECT CAMERA CABLE

VBV-L430 - 30 metre cable	**2108**
VBV-L420 - 20 metre cable	**1380**
VBV-L415 - 15 metre cable	**3150**
VBV-L412 - 12 metre cable	**3106**
VBV-L410 - 10 metre cable	**1386**
VBV-L405 - 5 metre cable	**1499**
VBV-L4025 - 2.5 metre cable	**1554**
VBV-L520 - 20 metre 5-pin shutter camera cable	**3664**
VBV-L510 - 10 metre 5-pin shutter camera cable	**3663**
VBV-L505 - 5 metre 5-pin shutter camera cable	**4001**

CAMERA MONITOR ADAPTER CABLES

AC-24-12(001) - in-line 24/12v converter - Select camera to Elite monitor	**4235**
AC-24-12(002) - in-line 24/12v converter - Elite camera to Fakra monitor	**4266**
AC-24-12(003) - in-line 24/12v converter - 2 x Select cameras to M12 5-pin +power	**4301**
AC-24-12(005) - in-line 24/12v converter - Select camera to M12 5-pin	**4323**
AC-24-12(006) - in-line regulator - Select camera to Volvo connector	**4719**

CAMERA MONITOR ADAPTER CABLES

AC-006 - Connects Select series camera to Elite series cable   **1983**

AC-007 - Connects Select series monitor to Elite series cable   **1984**

AC-014 - Connects Elite series camera to Select series cable   **2094**

AC-016 - Connects AV to Camera input of Elite monitor   **2150**

AC-019 - Connects Elite camera to male phono (video only)   **2589**

AC-020 - Connects Elite series monitor to Select series cable   **2590**

AC-024 - Connects phono to Select monitor   **3183**

AC-035 - 5-pin to 4-pin shutter camera adapter   **3702**

AC-041 - Connects Elite camera to John Deere 7 pin amp output   **4245**

AC-042 - Connects Select camera to John Deere 7 pin amp output   **4246**

AC-044 - Connects Elite camera to Molex M12 (Fendt)   **4279**

AC-045 - Connects Select camera to Molex M12 (Fendt)   **4280**

AC-056 - Connects Select camera to Orlaco monitor   **4401**

AC-062 - Connects Elite camera to Orlaco monitor   **4691**

OEM CAMERA MONITOR ADAPTER CABLES

A further range of OEM specific adapters to connect Brigade cameras to factory fit monitors is available - Please contact us for details
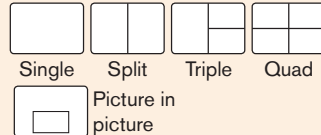
CAMERA MONITOR SYSTEM ANCILLARIES

EDM-50 - Multi-camera module and screen splitter   2152

- **12-24Vdc**
- **4 camera inputs**
- **Size (WxHxD) 154 x 28 x 105mm**
- **2 year warranty**

Single	Split	Triple	Quad

Picture in picture

Plus Additional In-built Image Options

Features
- Shutter camera compatible
- Tilt camera compatible
- AV input to accept DVD, sat nav or other add-ons
- 5 manual or auto-triggers for each camera
- On screen distance markers
- Mirror / Normal image switch for each camera
- Selectable camera audio
- Auto-scanning function
- Compatible across Brigade camera monitor range (adapters required for Select series)

Power
- Power consumption: 20 Watts

Durability & Standards
- Mechanical vibration: 5G
- Operating temperature: -25 to +70°C
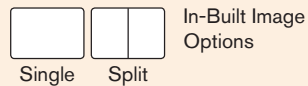- CE marked
- EMC approved: e

CAMERA MONITOR SYSTEM ANCILLARIES

SS-002 - Twin camera screen splitter   3044

- **12-24Vdc**
- **2 camera inputs**
- **Size (WxHxD) 147.5 x 37 x 78mm**
- **2 year warranty**

Single	Split

In-Built Image Options

Features
- Offers split screen option for monitors without in-built functionality
- 3 auto-triggers for each camera
- TV System: PAL / NTSC
- Manual Mirror / Normal switching
- Compatible across Brigade camera monitor range (adapters required for Elite series)

Power
- Power Consumption: 10.8 Watts

Durability & Standards
- Mechanical vibration: 10G
- Operating temperature: -40 to +70°C
- EMC approved: e

CAMERA MONITOR SYSTEM ANCILLARIES

LS-20-A - Low speed trigger module (normally closed)   3177

- **12-24Vdc**
- **Auto-triggers safety equipment at the designated speed**
- **Size (WxHxD) 61 x 36 x 94mm**
- **2 year warranty**

Features
- Simple to change triggering speed using DIP switch
- Normally closed - safety device on by default, turning off at designated speed
- Compatible with Brigade camera monitor systems

Power
- Power consumption: 0.1 Watts
- Current: 0.05 Amps

Durability & Standards
- Mechanical vibration: 10G
- Operating temperature: -40 to +70°C
- CE marked

CAMERA MONITOR SYSTEM ANCILLARIES

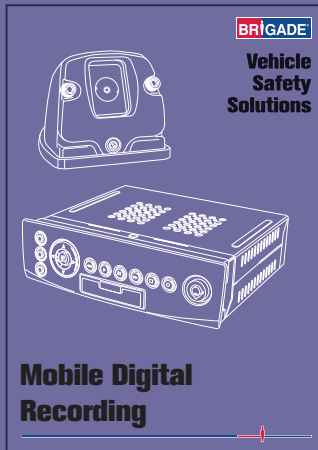### SC-1000-ECU - Shutter camera module   3666

- **Allows BE-810C shutter camera to function with any Elite range monitor (using Elite range cables).**

- **Use AC-007 adapter to connect to Select monitor.**
- **CE marked**
- **EMC approved: e**

mobile digital recording

Mobile Digital Recording

Available Brochure

By recording footage from vehicle mounted cameras, mobile digital recording provides an accurate witness, giving irrefutable evidence in the case of false claims, crash for cash incidents or vandalism. Disproving these claims means companies can make major cost savings, whilst importantly supporting their drivers, who are often the subject of increased scrutiny.

▪ **False claim prevention**

▪ **Protection for drivers who may be wrongly accused**

▪ **Provides irrefutable evidence in the case of accidents and legal proceedings**

▪ **Useful in reducing shrinkage and catching perpetrators**

▪ **Driver training and best practice**

▪ **Peace of mind for passengers and drivers**

MOBILE DIGITAL RECORDER

MDR-304A-500 - 500GB hard disk with improved data download speed   **3880**

- **12-24Vdc**
- **4 camera inputs**
- **4 trigger/alarm inputs**
- **Lockable central caddy**
- **Fast, easily downloadable recordings and data**
- **Size (WxHxD) 178 x 50 x 173mm**
- **3 year warranty**

Features
- Black box recorder with docking station and anti-vibration mounting
- Removable central caddy with integral hard disk and lockable keypad
- Up to 780 hours recording (based on 6 frames per second and standard image quality)
- Recording can be triggered by motion detection even when vehicle inactive
- Record images prior to alarm activation and after vehicle turned off
- Easy to use via 'DVD' style front panel
- Video and audio recordings saved on hard disk
- Download data to PC 10x faster than previous model via high speed USB 2.0 interface. Alternatively save data to removable SDHC card
- Simple to use HDD viewer software enables search of recorded video and export of critical moments to AVI video or static JPEG files

- 2 trigger / alarm outputs to trigger other devices
- Compatible with Brigade camera monitor systems
- Optional GPS sensor to record location, route and speed data
- Optional G sensor to record X, Y and Z impact data in the event of an accident
- Manually selectable PAL / NTSC

Picture Quality
- MPEG4 image compression allows high quality image resolution
- Choice of recorded image quality – low to high resolution
- Record at between 2 and 30 frames per second per channel

Durability & Standards
- Mechanical vibration: 2G
- Mechanical Shock: 15G
- Operating temperature: -20 to +50°C
- EMC approved: e

OPTIONAL EXTRAS

AC-301	**Connects Select camera to MDR & monitor**	**2904**
AC-302	**Connects Elite camera to MDR & monitor**	**2923**
AC-006	**Connects Select series camera cable to MDR**	**1983**
RC-300-060	**Remote control with 6 metre cable**	**2803**
GPS-6015-050	**GPS receiver (speed & location data) with 5.0m cable**	**2925**
GS-6016-030	**G sensor with 3 metre cable**	**4140**

NEW	**MOBILE DIGITAL RECORDER**

EDR-101-008 - Event Data recorder   4505

- **12-24Vdc**

- **1 in-built camera plus
  1 external camera input**

- **Fast, easily downloadable
  recordings and data**

- **Size (WxHxD)
  85 x 49.5 x 25.5mm**

- **1 year warranty**

Contents:
- 1x Recorder
- 1x GPS Antenna
- 1 x power cable
- 1x Mounting Bracket & adhesive pad
- 1x 8GB Micro SD card
- 1x Micro SD to SD adaptor
- 1x Software CD
- 1x user manual

Features
- High definition video capture for clear incident recording
- 112° wide angle camera lens
- 4 recording modes:
  - Normal
  - Event - shock sensor enables 10 seconds before and after an event to be recorded
  - Parking - movement engages event recording as above
  - Emergency - Driver presses the function button
- Up to 4 hours recording on supplied micro SD card (supports up to 32Gb)
- Simultaneous normal and event recording

- Continuous recording with automatic overwriting of oldest data.
- Audio function for additional event information
- GPS module for locating tracking
- Viewing software allows two cameras to be viewed, alongside speed, G-force levels and location
- Sotfware allows still images (jpeg) to be created with embedded date and time

Picture Quality
- CMOS sensor
- Video resolution:
  HD + VGA 1280 x 720 pixels
- MPEG4 image compression allows high quality image resolution
- Choice of recorded image quality – low to high resolution
- Fast frame rate, 30 frames per second, for smooth images

Durability & Standards
- Mechanical vibration: 2.5G
- Operating temperature: -10 to +50°C
- CE self DofC

OPTIONAL EXTRAS

EDR-101-LOCK	**SD card security lock**	**4517**

EDR-142C	**Micro camera**	**4514**

EDR-101-VC	**V-out cable**	**4511**

EDR-101-CPC	**Cigar lighter power cable**	**4510**
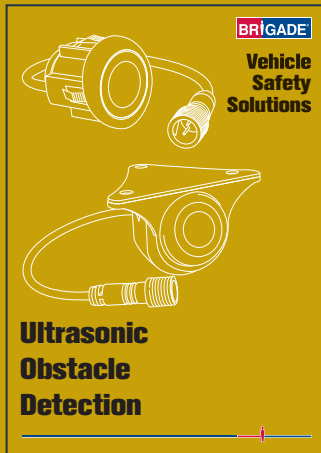
ultrasonic obstacle detection

BRIGADE

Vehicle Safety Solutions

Ultrasonic Obstacle Detection

Available Brochure

Sensor systems inform driver of distance between vehicle and any obstacles, whether moving or stationary. Perfect for road going commercial vehicles regularly operating in confined spaces or manoeuvring at low speeds.

Which system do you need?

Sidescan®
4 sensor system fitted to side of vehicle increasing safety when turning or low speed manoeuvring. Particularly relevant for near side blind spot where cyclists or pedestrians can otherwise go undetected.

Backscan®
4 sensor system fitted to rear of vehicle as an invaluable aid to safe reversing. Gives greater protection to pedestrians and workers, whilst minimising damage to vehicle and other objects.

Cornerscan™
3 sensor system fitted to near side corner of vehicle cab detects objects in front near side blind spot. Minimises the risk of damage to the vehicle cab whilst manoeuvring at low speed.

Frontscan®
4 sensor system fitted to front of vehicle improving safety when manoeuvring at low speed. Particularly relevant for front blind spot on high cabs where low objects or pedestrians can be hidden.

Stepscan™
2 sensor system fitted to near side cab step giving awareness to the driver of objects to the side when turning and reversing. Minimises the risk of damage to the vehicle cab from otherwise unseen objects.

SIDESCAN® ULTRASONIC DETECTION SYSTEM

SS-4000W - Sidescan sensor system   3711

- **4 sensor system**
- **12-24 Volts**
- **1.0/1.5m detection range - (selectable via dip switch)**
- **Audible distance warning**
- **Underslung and flush-mount fixings included**
- **2 levels of sensitivity - (selectable via dip switch)**
- **2 year warranty**

Contents
- 4 x sensors
- Buzzer
- 4 x 0° flush mount fixings
- 4 x 11° flush mount fixings
- 4 x underslung fixings
- Waterproof control box
- 10m buzzer cable
- 4 x 4.5m sensor cables
- 2 x 2.5m extension cables

Features
- Obstacles detected in under 200 milliseconds
- Environment Learning Mode prevents false alarms from ancillary equipment that intrudes in the first 100cm of the detection zone
- Self-diagnostic function

Durability & Standards
- Operating temperature: -40 to +80°C
- Waterproof sensors to IP68
- Waterproof control box to IP69K
- CE marked
- EMC approved: E

ADDITIONS FOR ARTICULATED VEHICLES

SK-15-04	**Truck/trailer camera/sensor cable kit - see p27**	**3997**
SK-UDS-05	**Truck/trailer sensor only cable kit (required)**	**4219**
UDS-10BC	**10m display cable (required)**	**3716**
SS-4000W	**Additional Sidescan sensor system for cab (optional)**	**3711**

RECOMMENDED EXTRA

LS-20-A	**Low speed trigger module (enables sensors below designated speed)**	**3177**
TS-001ECU	**Turn indicator trigger for system activation**	**1362**

OPTIONAL EXTRA

SS-BC-08	**Backchat speaking alarm with side turn warning for cyclists/pedestrians** Note: TS-001ECU Turn indicator trigger is required	**1334**
TCO-47-01	**Latched auto-reset Backalarm cut-out (dash mount)**	**4752**

BACKSCAN® ULTRASONIC DETECTION SYSTEM

BS-4000W - Backscan reversing sensor system   3744

- **4 sensor system**

- **12-24 Volts**

- **2.5m detection range - outer sensors 2.5m/0.6m (selectable via dip switch)**

- **Graduated visual and audible distance warning display**

- **Underslung and flush-mount fixings included**

- **50cm compensation range for sensors fitted inboard of vehicle rear (selectable via dip switch)**

- **2 year warranty**

Contents
- 4 x sensors
- Visual and audible display
- 4 x 0° flush mount fixings
- 4 x 11° flush mount fixings
- 4 x underslung fixings
- Waterproof control box
- 15m display cable
- 4 x 2.5m sensor cables

Features
- Obstacles detected in under 200 milliseconds
- Environment Learning Mode prevents false alarms from tow-hooks and other ancillary equipment that intrudes in the first 100cm of the detection zone

- Self-diagnostic function
- 1 x Trigger output

Durability & Standards
- Operating temperature: -40 to +80ºC
- Waterproof sensors to IP68
- Waterproof control box to IP69K
- CE marked
- EMC approved: E

- 1.5m detection range model also available - Please contact us for details

REQUIRED ADDITIONS FOR ARTICULATED VEHICLES

SK-15-04	**Truck/trailer camera/sensor cable kit - see p27**	3997
SK-UDS-05	**Truck/trailer sensor only cable kit**	4219
UDS-10BC	**10m Buzzer/display cable**	3716

OPTIONAL EXTRA

UDS-RELAY-24	**Trigger-out diode protected relay 24v**	4215
UDS-RELAY-12	**Trigger-out diode protected relay 12v**	4216

CORNERSCAN™ ULTRASONIC DETECTION SYSTEM

CS-3000 - Cornerscan sensor system   3712

- **3 sensor system**

- **12-24 Volts**

- **0.6/1.0m detection range - (selectable via dip switch)**

- **Audible distance warning**

- **Flush-mount**

- **2 levels of sensitivity - (selectable via dip switch)**

- **2 year warranty**

Contents
- 3 x sensors
- Buzzer
- 3 x 11° flush mount fixings
- 3 x 18° flush mount fixings
- 3 x 26° flush mount fixings
- Waterproof control box
- 2.5m buzzer cable
- 3 x 2.5m sensor cables

Features
- Obstacles detected in under 200 milliseconds
- Environment Learning Mode prevents false

alarms from ancillary equipment that intrudes in the first 100cm of the detection zone
- Self-diagnostic function

Durability & Standards
- Operating temperature: -40 to +80ºC
- Waterproof sensors to IP68
- Waterproof control box to IP69K
- CE marked
- EMC approved: E

RECOMMENDED EXTRA

LS-20-A	**Low speed trigger module (enables sensors below designated speed)**	3177

FRONTSCAN® ULTRASONIC DETECTION SYSTEM

FS-4000W - Frontscan sensor system   3747

▪ 4 sensor system

▪ 12-24 Volts

▪ 2.1m/1.0m detection range -
outer sensors can be reduced
to 0.6m
(selectable via dip switches)

▪ Audible distance warning

▪ Flush-mount

▪ 2 year warranty

Contents
▪ 4 x sensors
▪ Buzzer
▪ 4 x 11° flush mount fixings
▪ 4 x 18° flush mount fixings
▪ 4 x 26° flush mount fixings
▪ Waterproof control box
▪ 2.5m buzzer cable
▪ 4 x 2.5m sensor cables

Features
▪ Obstacles detected in
under 200 milliseconds
▪ Environment Learning
Mode prevents false
alarms from tow-hooks

and other ancillary
equipment that intrudes
in the first 100cm of the
detection zone
▪ Self-diagnostic function
▪ 1 x Trigger output

**Durability &
Standards**
▪ Operating temperature:
-40 to +80°C
▪ Waterproof sensors to IP68
▪ Waterproof control box to
IP69K
▪ CE marked
▪ EMC approved: E

RECOMMENDED EXTRA

LS-20-A   Low speed trigger module   3177
                         (enables sensors below designated speed)

OPTIONAL EXTRA

UDS-RELAY-24   Trigger-out diode protected relay 24v   4215
UDS-RELAY-12   Trigger-out diode protected relay 12v   4216

STEPSCAN™ ULTRASONIC DETECTION SYSTEM

ST-2000 - Stepscan sensor system   3742

▪ 2 sensor system

▪ 12-24 Volts

▪ 0.6/1.0m detection range -
(selectable via dip switch)

▪ Audible distance warning

▪ Flush-mount

▪ 2 levels of sensitivity -
(selectable via dip switch)

▪ 2 year warranty

Contents
▪ 2 x sensors
▪ Buzzer
▪ 2 x 11° flush mount fixings
▪ 2 x 18° flush mount fixings
▪ 2 x 26° flush mount fixings
▪ Waterproof control box
▪ 2.5m buzzer cable
▪ 2 x 2.5m sensor cables

Features
▪ Obstacles detected in
under 200 milliseconds
▪ Environment Learning
Mode prevents false

alarms from ancillary
equipment that intrudes
in the first 100cm of the
detection zone
▪ Self-diagnostic function

**Durability &
Standards**
▪ Operating temperature:
-40 to +80°C
▪ Waterproof sensors to IP68
▪ Waterproof control box to
IP69K
▪ CE marked
▪ EMC approved: E

EXTENSION CABLES

UDS-2.5BC - Buzzer/display extension cable 2.5m   3717
UDS-10BC - Buzzer/display extension cable 10m   3716
UDS-15BC - Buzzer/display extension cable 15m   3746
UDS-2.5SC - Sensor extension cable 2.5m   3719
UDS-4.5SC - Sensor extension cable 4.5m   3720

BRIGADE

Vehicle Safety Solutions

bbs-tek®
White Sound®
Warning Alarms

Available Brochure

Vital safety devices needed to warn workers and pedestrians that a vehicle is manoeuvring. Our range includes bbs-tek® white sound® alarms; smart alarms which adjust to the ambient noise level; and speaking alarms, which provide a real speech warning of imminent danger.

Which alarm is for you?

Heavy duty
For plant, quarry and construction machines or environments with high ambient noise.

Medium duty
Ideal for commercial road going vehicles and environments with mid level ambient noise.

Vehicle specific
Petrol tanker (ADR) and electric forklift (High Voltage) options available.

+44(0) 1322 420300   sales@brigade-electronics.com   www.brigade-electronics.com

reversing and warning alarms

bbs-tek® white sound®

The safest alarms in the world due to their instant locatability and directional sound. The multi-frequency alarms are only heard in the danger zone, thus eliminating noise nuisance for local residents.

bbs-tek® smart reversing alarms
Continually adjust to 5-10 decibels above ambient so ideal in varying noise level environments.

bbs-tek® reversing alarms

QUIET MARK
noise abatement society approved

Backchat®

Speaking warning alarms that reproduce real speech with unrivalled quality and clarity.

Speaking alarms
Include standard messages for reversing, handbrake warning and attack alarms.

Bespoke speaking alarms
Define your own message as required.

Nightshift® speaking alarms
Include built-in alarm cut-out for night-time use.

Vehicle intercom
Two-way communication system provides clear, reliable communication between the driver and others not in the cab.

WHITE SOUND® SMART REVERSING ALARM

SA-BBS-107 - Self adjusting heavy duty - 87-107 Decibels   **1400**

- **12-24 Volts**
- **IP68**
- **Size (WxHxD)**
  172 x 79 x 95mm
- **Lifetime warranty**

Features
- Alarm continually adjusts to 5-10dB above ambient
- Multi frequency broadband sound
- Instantly locatable
- Sound confined to danger area
- Eliminates noise nuisance
- Sounder unit: Driver
- Hole centres (mm): 153

Power
- Current: Max 1 Amp

Durability & standards
- Mechanical vibration: 10G
- Operating temperature: -40 to +85°C
- CE marked
- SAE J994

WHITE SOUND® SMART REVERSING ALARM

SA-BBS-97 - Self adjusting - medium duty - 77-97 Decibels   **1399**
SA-BBS-97HV - Self adjusting - electric forklift - 77-97 Decibels   **1398**

- **12-24 Volts**
- **36-80 Volts (HV)**
- **IP68**
- **Size (WxHxD)**
  127 x 76 x 65mm
- **Lifetime warranty**

Features
- Alarm continually adjusts to 5-10dB above ambient
- Multi frequency white sound alarm
- Instantly locatable
- Sound confined to danger area
- Eliminates noise nuisance
- Sounder unit: Driver
- Hole centres (mm): 98-108

Power
- Current: Max 1 Amp

Durability & standards
- Mechanical vibration: 10G
- Operating temperature: -40 to +85°C
- CE marked
- SAE J994
- NAS/PIEK approved for night-time delivery

WHITE SOUND® REVERSING ALARM

BBS-107 - Heavy duty - 107 Decibels   **0899**
BBS-102 - Heavy duty - 102 Decibels   **0898**

- **12-24 Volts**
- **IP68**
- **Size (WxHxD)**
  172 x 79 x 95mm
- **Lifetime warranty**

Features
- Multi frequency broadband sound
- Instantly locatable
- Sound confined to danger area
- Eliminates noise nuisance
- Sounder unit: Driver
- Hole centres (mm): 153

Power
- Current: Max 1 Amps

Durability & standards
- Mechanical vibration: 10G
- Operating temperature: -40 to +85°C
- CE marked
- EMC approved: e
- SAE J994

BRIGADE®

WHITE SOUND® REVERSING ALARM

BBS-92HV - Electric forklift - 92 Decibels	**1402**
BBS-82HV - Electric forklift - 82 Decibels	**1322**
BBS-92ADR - Petrol tanker - 92 Decibels	**2165**

bbs tek

ADR version

- **12-24 Volts**
- **36-80 Volts (HV)**
- **IP68**
- **Size (WxHxD)**
  127 x 76 x 65mm
- **Lifetime warranty**

Features
- Multi frequency broadband sound
- Instantly locatable
- Sound confined to danger area
- Eliminates noise nuisance
- Sounder unit: Speaker
- Hole centres (mm): 98-108

Power
- Current: Max 0.3 Amps

Durability & standards
- Mechanical vibration: 10G
- Operating temperature: -40 to +85°C
- CE marked
- EMC approved: e
- SAE J994

BEST SELLER | ## WHITE SOUND® REVERSING ALARM

BBS-97 - Medium duty - 97 Decibels	**0935**
BBS-92 - Medium duty - 92 Decibels	**0934**
BBS-87 - Medium duty - 87 Decibels	**0897**
BBS-82 - Medium duty - 82 Decibels	**0896**
BBS-77 - Medium duty - 77 Decibels	**1397**

bbs tek

- **12-24 Volts**
- **IP68**
- **Size (WxHxD)**
  105x65x37mm (BBS-97/92)
  105x65x32mm (BBS-87/82/77)
- **Lifetime warranty**

Features
- Multi frequency broadband sound
- Instantly locatable
- Sound confined to danger area
- Eliminates noise nuisance
- Sounder unit: Speaker
- Hole centres (mm): 76

Power
- Current: Max 0.5 Amps

Durability & standards
- Mechanical vibration: 10G
- Operating temperature: -40 to +85°C
- CE marked
- EMC approved: e
- SAE J994
- NAS/PIEK approved for night-time delivery (BBS-82 & BBS-77 only)

SPEAKING ALARM

BC-01HP - Single reversing message - 110 Decibels   0665
BC-01HP(B) - Bespoke single message - 110 Decibels   1199

- **12-24 Volts**
- **IP68**
- **Size (WxHxD)**
  116 x 115 x 117.5mm
- **2 year warranty**

Features
- Real speech alarm
* BC-01HP message "Ssh! Stand well clear, vehicle reversing…"
- Bespoke message up to 8 seconds, under 4 seconds for best speech quality
- Sounder unit: Speaker
- Hole centres (mm): 102

Power
- Current: 0.5 Amps

Durability & standards
- CE marked
- EMC approved: e

NIGHTSHIFT® SPEAKING ALARM

BC-01(NS) - Single reversing message - Nightshift - 90 or 0 Decibels   0378
BC-01(NS-B) - Bespoke single message - Nightshift - 90 or 0 Decibels   1198

- **12-24 Volts**
- **IP68**
- **Size (WxHxD)**
  122 x 84 x 50mm
- **2 year warranty**

Features
- Real speech alarm
* BC-01(NS) message "Ssh! Stand well clear, vehicle reversing…"
- Bespoke message up to 8 seconds, under 4 seconds for best speech quality
- Double engage reverse to cut-out or reduce sound

- Sounder unit: Speaker
- Hole centres (mm): 102

Power
- Current: 0.5 Amps

Durability & standards
- CE marked
- EMC approved: e

SPEAKING ALARM

BC-01 - Single reversing message - 90 Decibels   0077
BC-01(B) - Bespoke single message - 90 Decibels   0079
BC-02(B) - Bespoke dual message - 90 Decibels   0083

- **12-24 Volts**
- **IP68**
- **Size (WxHxD)**
  122 x 84 x 50mm
- **2 year warranty**

Features
- Real speech alarm
* BC-01 message "Ssh! Stand well clear, vehicle reversing…"
- Bespoke message up to 8 seconds, under 4 seconds for best speech quality
- Sounder unit: Speaker
- Hole centres (mm): 102

Power
- Current: 0.5 Amps

Durability & standards
- CE marked
- EMC approved: e

SPEAKING HANDBRAKE WARNING ALARM

BC-01(H/Brake) - Single message - 2 wire - 90 Decibels   **0849**
BC-01(4W)(H/Brake) - Single message 4 wire - 90 Decibels   **1715**

2 wire version shown

- 12-24 Volts
- IP68
- Size (WxHxD)
  122 x 84 x 50mm
- 2 year warranty

Features
- Real speech alarm
* Message "Bleep! Handbrake not applied…"
- Sounder unit: Speaker
- Hole centres (mm): 102

Power
- Current: 0.5 Amps

Durability & standards
- CE marked
- EMC approved: e

SPEAKING SIDE TURN WARNING ALARM

SS-BC-08 - Single side turn message - 90 Decibels   **1334**

- 12-24 Volts
- IP68
- Size (WxHxD)
  122 x 84 x 50mm
- 2 year warranty

Features
- Real speech alarm
* Message "Ssh! Caution. Truck turning left…"
- Sounder unit: Speaker
- Hole centres (mm): 102

Power
- Current: 0.5 Amps

Durability & standards
- CE marked
- EMC approved: e

Note: TS-001ECU Turn indicator trigger is required   1362

SPEAKING ATTACK ALARM

BC-AA(BUS) - Single bus specific message - 110 Decibels   **0064**
BC-AA(B) - Single bespoke message - 110 Decibels   **1465**

- 12-24 Volts
- IP68
- Size (WxHxD)
  116 x 115 x 117.5mm
- 2 year warranty

Features
- Real speech alarm
- Activated by panic button, repeats continuously until deactivated by hidden switch
- Sounder unit: Speaker
- Hole centres (mm): 48

Power
- Current: 0.5 Amps

Durability & standards
- CE marked
- EMC approved: e

VEHICLE INTERCOM

BC-VI - Normally open channel rear to cab; button press cab to rear **0815**
BC-VI-2 - Normally closed channel; button press communication **0875**

- 12-24 Volts
- IP68
- Size (WxHxD)
  122 x 84 x 50mm
- 2 year warranty

Features
- Two-way communication system
- Master unit volume control: 80-95dB
- Includes master unit, slave unit and 25m cable
- Sounder unit: Speaker
- Hole centres (mm): 102

Power
- Current: 0.5 Amps

Durability & standards
- CE marked

ALARM ANCILLARIES

TCO-47 - Auto-reset Backalarm cut-out (dash mount) **0663**

- 12-24 Volts
- 2 year warranty

Features
- Single touch timed relay
- Allows driver to cut-out Backalarm if reversing between 11.30pm-7.00am
- Auto-resets after 3-4 mins delay

Durability and Standards
- CE marked
- EMC approved

ALARM ANCILLARIES

NS-2 - Nightshift Backalarm cut-out switch **0334**
NS-3 - Nightshift Backalarm cut-out switch (auto gear box) **0974**

- 12-24 Volts
- IP68
- 2 year warranty

Features
- Double engage reverse to cut-out Backalarm
- Resets when reverse gear disengaged (longer time delay for NS-3)
- No wiring necessary to cab

Durability and Standards
- CE marked
- EMC approved

radar obstacle detection

Available Brochure

Backsense®

Robust, long-range, continuous wave radar sensor systems designed for harsh conditions. Informs driver of distance between vehicle and any obstacles, whether moving or stationary. Perfect for all machines working in construction, mobile plant and refuse.

Choosing your model

Programmable

Top of the range programmable system allowing bespoke detection areas up to 30m in length and 10m in width, with the ability to calibrate out fixed objects or bodywork.

Fixed

Fixed detection length and width. Ideal on machines where no calibration is required. Detection range of up to 6 metres.

NEW | PROGRAMMABLE BACKSENSE OBSTACLE DETECTION

BS-8000 - Programmable detection range
Sensor, AV display, 9m cable   **4530**

In-cab display

- **12-24 Volts**
- **Detection length: 3 to 30m**
- **Detection width: 2 to 10m**
- **Rugged design for harsh environmental conditions**
- **Sensor size (WxHxD) 217 x 129 x 50mm**
- **IP69K sensor**
- **2 year warranty**

Features
- Frequency modulated continuous wave (FMCW) radar technology
- Effectively detects stationary, moving and multiple objects
- 1 activation input
- 1 trigger output
- Programmable:
  Detection area
  Blind zones - system ignores fixed objects
  Trigger activation point
  Buzzer
- 5 stage audible and visual distance warning display

- Resistant to water, moisture, dust, vibration, heat, cold, mud and glare

Power
- Current: 0.6 Amps

Durability & Standards
- Mechanical shock: 100G
- Operating temperature: -40 to +85°C
- CE marked
- EMC approved: E
- BS EN 13309: 2010
- ISO13766: 2006

NEW | FIXED BACKSENSE OBSTACLE DETECTION

BS-7030 - 3m detection range, 2.5m width
Sensor, AV display, 9m cable   **4527**

BS-7045 - 4.5m detection range, 3.5m width
Sensor, AV display, 9m cable   **4528**

BS-7060 - 6m detection range, 4.5m width
Sensor, AV display, 9m cable   **4529**

In-cab display

- **12-24 Volts**
- **Maximum detection range of 6m**
- **Rugged design for harsh environmental conditions**
- **Size (WxDxH) 217 x 129 x 50mm**
- **IP69K sensor**
- **2 year warranty**

Features
- Frequency modulated continuous wave (FMCW) radar technology
- Effectively detects stationary, moving and multiple objects
- 1 activation input
- 1 trigger output
- 5 stage audible and visual distance warning display
- Resistant to water, moisture, dust, vibration, heat, cold, mud and glare

Power
- Current: 0.6 Amps

Durability & Standards
- Mechanical shock: 100G
- Operating temperature: -40 to +85°C
- CE marked
- EMC approved: E
- BS EN 13309: 2010
- ISO13766: 2006

EXTENSION CABLES

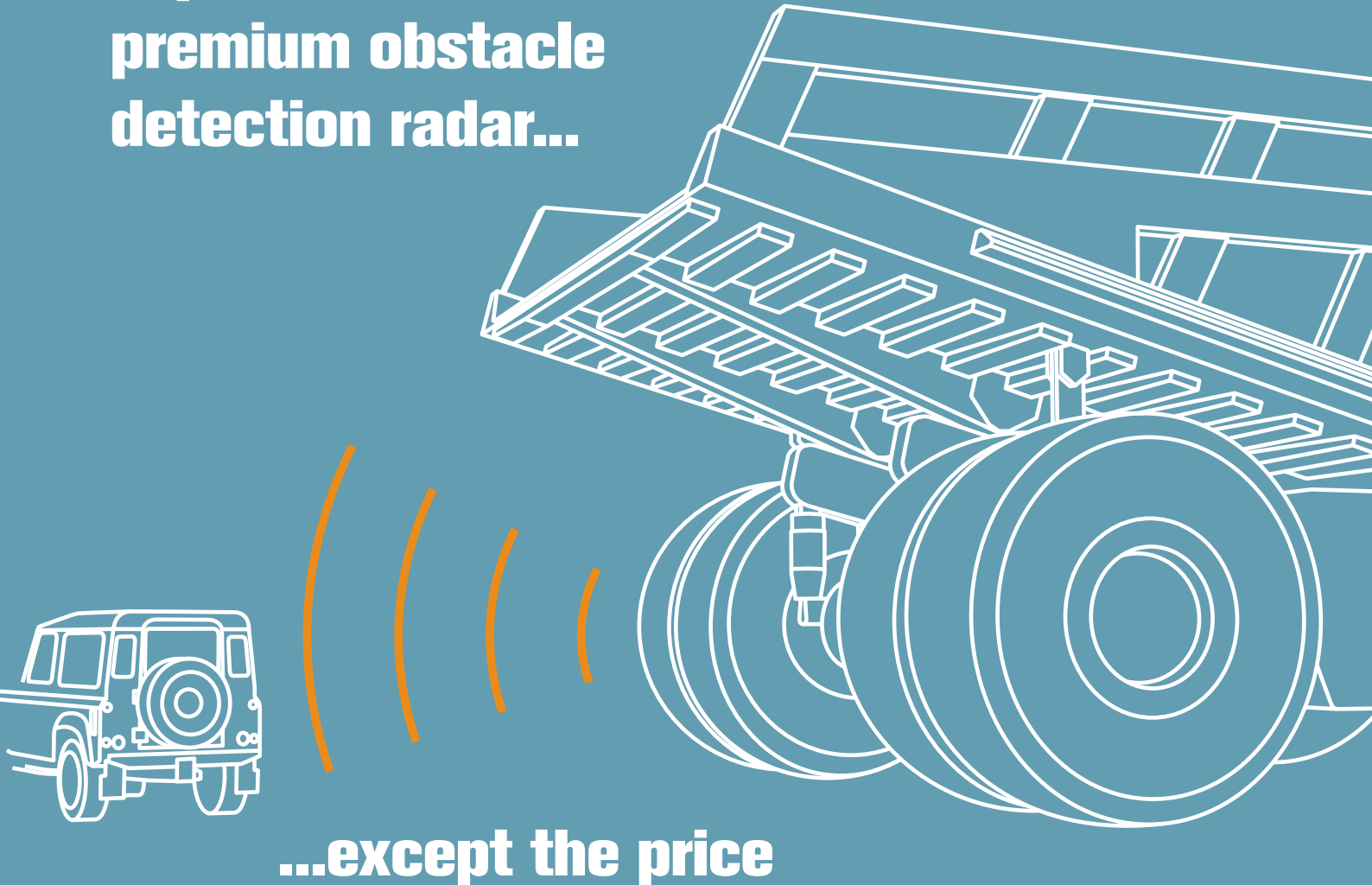**BS-05DCX - 5m extension cable**   **4550**
BS-09DCX - 9m extension cable   **4551**

OPTIONAL EXTRAS

BKT-017   - Adjustable radar bracket   **4676**
with 105mm depth bracket mounting arms

NEW Backsense®

Everything you expect from a premium obstacle detection radar...

...except the price

Backsense® is a new affordable radar system from Brigade designed to help reduce collisions in tough working environments. It offers a controlled beam pattern that ensures targeted detection with fewer false alerts than alternative radar systems. Available in 3 fixed-length models and a fully configurable version for bespoke areas of up to 30m.

ALL NEW radar. Built by Brigade.

Amp
Unit of electric current.

Approved for indirect vision
Product meets directives (e.g. 2003/97/EC, 2007/38/EU) or standards (e.g. Regulation 46) with regard to its use on vehicles for indirect vision e.g. giving visibility in otherwise blind spots.

Auto-trigger
Enables automatic triggering of an action i.e. display of rear camera view when reverse gear engaged.

A/V input/output
Communication connection between electronic devices.

> **Input**
> Receives audio/visual signals such as from DVD or satellite navigation.

> **Output**
> Sends audio/visual signals to other devices such as to mobile digital recorder.

Brightness
Brightness of the picture displayed on a monitor, measured in candelas per square metre (cd/m^2). Higher the measure the brighter the picture.

CCD (Charged-Coupled Device)
A tiny photocell used in cameras to convert light into a digital signal.

Contrast
Light intensity ratio of a display device between darkest and lightest colour produced.

CE mark
Confirmation that a product is in conformity with the essential requirements of any applicable directives e.g. 2004/108/EC (relating to Electromagnetic Compatibility).

Decibel
Unit of measure of the pressure (intensity) of sound. The higher the rating the more intense the sound.

EMC (Electro-magnetic compatibility)
A test to determine the unwanted effects of electromagnetic interference.

> **E**
> Complies to United Nations Commission for Europe (UNECE) standards e.g. ECE 10.03

> **e**
> Complies to Council of the European Union standards e.g. 2006/28/EC, 2009/19/EC

Frequency
Number of times a sound source vibrates per unit of time, measured in hertz (hz). The higher the rating the higher the pitch.

GPS (Global Positioning System)
Global satellite system providing positioning and timing services to worldwide users on a continuous basis.

HALT (Highly Accelerated Life Test)
A comprehensive stress test applied to electronic equipment to identify design weakness.

glossary

Illumination distance (camera)
Distance a camera with infrared LEDs can see in ultra-low light conditions, measured in metres.

IP## (Ingress Protection)
An international classification for the sealing of electrical equipment against the intrusion of solid objects (digit 1) and liquids (digit 2). Higher the rating the better protection in each case.

ISO 13766:2006
Specific standard for earthmoving equipment, includes requirements for some additional tests that are not covered in the tests for 'E' or 'e' under EMC.

ISO 15008:2003
Standard relating to the specifications and compliance procedures for in-vehicle visual presentation i.e. in relation to monitors.

ISO 16750
Standard providing guidance regarding environmental conditions commonly encountered by electrical and electronic systems installed in vehicles.

LCD (Liquid Crystal Display)
Thin, flat display device made up of any number of colour or monochrome pixels i.e. monitor screen.

LED (Light Emitting Diode (camera))
Emits infrared light for high efficiency and performance in ultra-low light.

LED (Light Emitting Diode (monitor))
Used to backlight the monitor display for crisp images and superior image quality.

Mechanical shock
Level of sudden acceleration or deceleration, such as impact or being dropped, to which product will still perform. Measured in gravitational force (G).

Mechanical vibration
Level of continuous or repetitive motion, such as engine vibration, to which product will still perform. Measured in gravitational force (G).

NAS-PIEK
The standard for quiet delivery vehicles in the UK, certified by the Noise Abatement Society.

NTSC (National Television Systems Committee)
TV colour encoding standard.

PAL (Phase Alternating Line)
TV colour encoding standard.

Resolution (RGB)
Number of pixels used to display an image. Measured in Width x 3 channels (Red, Green, Blue) x Height.

SAE J994
Performance testing for electrically operated reversing alarms primarily intended for use on off-road, self-propelled construction and industrial machines.

SD Card
Small portable memory card to store digital data.

Sounder unit
Unit which produces the sound of an alarm.

TV Lines
Number of horizontal lines used to create an image.

USB port
Communication connection between electronic devices i.e. to download data from mobile digital recorder.

Viewing angles (camera)
The maximum angle of vision.

Viewing angles (monitor)
The maximum angle at which an image can be successfully viewed. Measured from the centre point on the monitor.

Watt
A measure of the power needed to drive a product.

warranties

PEACE OF MIND FROM BRIGADE

The quality of our product range is the cornerstone on which the continuing relationship with our customers is built. To reflect our confidence in the reliability of our products, some have a lifetime warranty. Many others have a 3 year warranty and the rest have a 2 or 1 year warranty. The following quick reference chart indicates the warranty available on Brigade products.

LIFETIME WARRANTY

Lifetime Warranty (covers the alarm for the life of the vehicle)

bbs-tek® reversing alarms (all models featured in this catalogue)

Self-adjusting Backalarms (SA-range)

3 YEAR WARRANTY

3 Year Warranty

Elite CMS range (all monitors and cameras with a BE prefix)

MDR digital recorder

2 YEAR WARRANTY

2 Year Warranty

All other products.

1 YEAR WARRANTY

1 Year Warranty

Essential camera monitor system.

EDR digital recorder

Warranty Terms and Conditions

Brigade warrants all goods to be free from defect in material and workmanship in normal use provided that they have been installed and operated in accordance with the instructions supplied. The commencement date of all warranties is the date of delivery to the purchaser unless otherwise agreed in writing by Brigade. The period during which the warranty applies is stated above. Brigade make no other warranty, express or implied, with respect to the goods, their marketability, quality or fitness for any particular use or purpose. In particular, but without prejudice to the general provisions of the conditions of sale, no responsibility is assumed for incidental or consequential loss by reason of any warranty express or implied. Full details of Brigade's Terms and Conditions are contained in the Price List.

Brigade Electronics Group Plc reserves the right to change terms, conditions and specifications shown in this catalogue at any time.

To order or for more information on
Brigade's vehicle safety solutions;
brigade-electronics.com
+44 (0)1322 420300
or visit your local stockist

Brigade Electronics Group plc

LIT0001